IN THE SPECIFICATION

Please rewrite the paragraph beginning at page 1, line 12, as follows:

Transmission of data by optical fiber waveguides, also called fiber optics ~~of~~ or optical fibers, has become ubiquitous in the telecommunications and computer industries. Digital information in an electronic system is converted into a series of pulses of light generated by lasers ~~of~~ or light emitting diodes (LED's), which are injected into long fibers of glass or polymeric materials. The fibers are capable of propagating the light with extremely low losses and acceptably low dispersion, whereby information embodied in the modulation pattern may be conveyed. The light that emerges from the other end of the fiber can be detected and reconverted into electronic signals that faithfully reproduce the original signal.

Please rewrite the paragraph beginning at page 5, line 18, as follows:

The present invention provides an apparatus and method for cleaving an optical fiber waveguide to produce at the end thereof a planar surface suitable for joining to another optical fiber waveguide, preferably by fusion splicing. Advantageously the present apparatus operates reliably and with minimal operator skill required to form an end that is (i) substantially perpendicular to the axis of the fiber; and (ii) substantially free from cracks, depressions, asperities, peripheral chips, or other similar surface defects that inhibit formation of a high quality joint either by fusion or by mechanical splicing.

Please rewrite the paragraph beginning at page 6, line 22, as follows:

Advantageously, cleaving apparatus constructed in accordance with the present invention permits adjustment and reproducible control of a number of important process parameters, including the speed of fiber scribing, the force of engagement of the scribing blade onto the fiber, the tension levels applied to the fiber during the scribing phase and during the fracture phase, and the location of the fracture plane relative to the ~~fiver~~ fiber clamping system and the resulting length of fiber projection. As a result, variation in one or more of these parameters, both from part to part and operator to operator, seen in prior art methods are substantially reduced or eliminated, resulting in cleaving that is highly reproducible. In addition, the present apparatus advantageously provides control of the scribing process based on the force applied by the scribing blade, as opposed to its position.

Please rewrite the three paragraphs beginning at page 9, line 3, as follows:

Preferably self-aligning holder 108 is removable from apparatus 100. Fiducial alignment pins (not shown) provided in the bottom of holder 108 mates with complementary holes in the support base ~~144~~ 143 of apparatus 100 to assure reproducible positioning of holder 108. Of course, the placement of pins and holes may be interchanged, and other interlocking geometric alignment features may also be used to accomplish the alignment. Advantageously, a fiber held in a removable holder may be cleaved in accordance with the present invention, and then be transferred, while still positioned in the holder, to a fiber splicing apparatus appointed with a substantially identical alignment structure. This interchangeable mounting allows the length of fiber to be established precisely and reproducibly, facilitating alignment that must be carried out in a splicing system.

A more detailed view of the embodiment of **Fig. 2** is shown in ~~**Fig. 3**~~**Figs. 3A-3B**. Various subassemblies of the apparatus 100 are attached to base 138, including fiber pull tension assembly 200. As further depicted by ~~**Fig. 4**~~**Fig. 5**, fiber clamp 202 pivotally opens about hinge pin 210 to accommodate and secure fiber 102. Clamp 202 is opened by action of servo motor 204. Tension spring 140 urges pull clamp 212 to rotate about tension pivot 206 in the direction "T". A resultant torque applies a tension to fiber 102 that is tangentially directed. Roller 208 engages fiber tension profile bar 250 seen in ~~**Fig. 5**~~ **Fig. 4** to limit the extent of rotation of clamp 212 and ~~this~~thus, the magnitude of the tension in fiber 102. The tension is further controlled by adjustment 142, which varies the extension of spring 140.

~~**Fig. 5**~~**Fig. 4** further depicts scribing knife assembly 112 including blade arm 262 and blade 260 mounted thereon. Blade arm 262 is rotatably mounted on shaft 264. A coil blade force spring (not shown) operating in torsion, with its ends disposed in holes 272 and 270

upwardly biases arm 262. The amount of bias is advantageously adjustable by rotating blade force adjustment drum ~~2678~~268, which is locked to shaft 264 by a setscrew or other comparable locking means (not shown). The amount of force of engagement of blade 260 is thereby adjustable to a preselected, controlled value. Preferably, the force ranges from about 1 to 5 grams. The lateral position of blade arm 262 on shaft 264 is preferably adjustable, thereby allowing adjustment of the amount of fiber projecting from fiber holder 108 after cleaving.

Please rewrite the four paragraphs beginning at page 10, line 7, as follows:

Knife assembly 112 is supported on blade carriage 254 for reciprocating motion along linear slide 252. Motor drive assembly ~~260~~ 261 operates to rotate crank 258 pivotally attached to carriage actuator 256 at pivot 257. Actuator 256, in turn, is pivotally attached at carriage pivot 259.

In operation, each cleaving cycle comprises one rotation of crank 258 and one reciprocating motion of carriage 254 and knife assembly 112. Pin 274 rides in a generally parallelogram-shaped, vertically oriented guide track 280 ~~(not shown)~~ in a side of support 113. The track includes guide wires that direct pin 274 non-reversibly to an upper slide track 281 during the rearward retraction of carriage 254 toward motor ~~260~~261 and to a lower slide track 282 during the forward stroke of carriage 254. As a result, upwardly biased blade 260 engages fiber 102 during the rearward stroke, whereby the fiber is scribed to form a crack-initiating defect, while blade 260 is depressed to withdraw it from engagement with fiber 102 during the forward stroke.

At the completion of the forward stroke, the position of carriage 254 is sensed by sensor ~~104~~ 144 and motor drive ~~260~~261 is stopped in response. The apparatus is thereby armed for its next use, with blade 260 in its forward position, downwardly removed from contact with fiber 102. Sensor ~~104~~ 144 may be any suitable mechanical switch or a non-contact magnetic or optical position sensor that may operate with suitable switching means to stop the apparatus cycle.

The reciprocating action of carriage 254 further acts to cause variation in the tension applied to fiber 102 that results both in reliable scribing of the fiber and in reproducible fracture to form a planar and mating surface. Plural levels of tension are provided by steps in

fiber tension profile bar 250, e.g. steps 251a, 251b, and 251c depicted in ~~Fig. 5~~Fig. 4. As previously noted, overall tension is applied to fiber 102 by fiber tension pull assembly 200 biased by spring ~~100~~140. During the scribing, roller 208 successively engages steps 251a – 251c attached to carriage 254. The steps variably limit the allowable rotation of assembly 200, the minimum rotation in the counter clockwise direction T occurring during engagement with step 251a. As carriage ~~251~~ 254 moves rearward, the rotation increases with the engagement with step 251b and still further with step 251c. Increased counterclockwise rotation increases the tension applied to fiber ~~120~~102. The scribing takes place during the application of the intermediate tension corresponding to step 251b. The level of tension is preselected to make the fiber adequately taut to support the fiber and not permit it to curl or rotate in resistance to the frictional force attendant to the scribing. As a result, the location and intensity of the scribing are reproducible. Engagement with step 251c increases the tension to a preselected level sufficient to cause the crack initiated by the scribing to propagate across the fiber, thereby producing a clean, planar fracture surface perpendicular to the fiber axis.

Please amend the Brief Description of the Drawings to add reference to FIGS. 3A and 3B by rewriting one paragraph at page 8, lines 1-2, with the following two paragraphs:

Fig. 3A is a perspective view schematically depicting the fiber cleaving system of **Fig. 2** in greater detail;

Fig. 3B is a cross-sectional view of the fiber cleaving system of **Fig. 3A** taken at level III-III;